

APPENDIX F-10

Qualitative Analysis Paper

Observer Program

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ACRONYMS AND ABBREVIATIONS

AED	Alaska Enforcement Division
AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center's
BSAI	Bering Sea/Aleutian Islands
CDQ	Community Development Quota
Council	North Pacific Fishery Management Council or NPFMC
EEZ	Exclusive Economic Zone
FFOP	Foreign Fisheries Observer Program
FMP	Fishery Management Plan
ft	feet
GOA	Gulf of Alaska
IFQ	Individual Fishing Quota
JPA	Joint Partnership Agreement
LOA	length overall
Magnuson Act	Magnuson Fisheries Conservation and Management Act of 1976
MCP	motion-compensated platform
MMPA	Marine Mammal Protection Act
MRAG	Marine Resources Assessment Group
MSA	Magnuson-Stevens Fishery Conservation and Management Act
mt	metric tons
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPGOP	North Pacific Groundfish Observer Program
NWAFSC	Northwest and Alaska Fisheries Center
OAC	Observer Advisory Committee
OPO	Observer Program Office
Research Plan	North Pacific Conservation Research Plan
SDM	service delivery model
TAC	Total Allowable Catch

Observer Program

1.0 Introduction

The North Pacific Groundfish Observer Program (NPGOP) collects, maintains and distributes data for scientific, management, and regulatory compliance purposes for fisheries in the 900,000 square mile Exclusive Economic Zone (EEZ) off the coast of Alaska. The responsibilities of the NPGOP are shared among the three key components of the Program. These components are: (1) the Alaska Fisheries Science Center's (AFSC) Observer Program Office (OPO), (2) private observer provider companies permitted by the National Marine Fisheries Service (NMFS), and (3) fishing companies participating in fisheries requiring observer coverage. Each entity's roles are stipulated by federal regulation in 50 CFR 679¹ and are briefly described below.

The OPO is responsible for the overall administration of the Program. The OPO permits new observer provider companies, develops observer sampling protocols, supplies observer sampling equipment, oversees observer training, certification and decertification, debriefs returning observers, and manages all observer data. Currently, the OPO maintains offices in Seattle, Washington and Anchorage, Kodiak, and Dutch Harbor, Alaska.

Observer provider companies are responsible for recruiting qualified observer candidates, deploying observers, providing logistical support to observers, and providing all employer-related services to observers (including salaries, insurance, and benefits). There are currently five permitted observer companies providing observer coverage for the Alaska groundfish fisheries.

The fishing industry is responsible for contracting with an observer provider company to supply observer coverage. They are also responsible for obtaining the required amount of observer coverage for their vessel type or processing facility and fishery. The fishing industry bears the direct cost for their observer coverage requirements as well as costs associated with carrying an additional person(s) aboard their vessel or at their processing plant. The direct annual cost to the industry for observer coverage is estimated to be approximately \$12 million. In 2002, 340 individual observers were deployed aboard 312 vessels and 20 processing facilities for nearly 35,000 observer-days.²

1.1 Observer Program Background

The NPGOP originated in 1973 with the Foreign Fisheries Observer Program (FFOP), administered by the Northwest and Alaska Fisheries Center (NWAFC).³ Observers in the FFOP were deployed on foreign vessels operating off northwest and Alaskan coasts. The primary objectives of FFOP observers were to obtain daily

¹ Regulations extending the applicability of the NPGOP were published in the Federal Register / Vol. 67, No. 235 on Friday December 6, 2002

² An observer-day is a count of each day that an individual observer is assigned to a vessel or processing plant.

³ The NWAFC divided into two separate Centers-the Northwest Fisheries Science Center and the Alaska Fisheries Science Center (AFSC) in 1984.

and/or haul bycatch catch rates (depending on vessel type), gather data on species, size, and age composition and, determine the incidence of Pacific halibut, salmon, and crab in landings. Additional tasks included recording data on incidentally caught marine mammals, reporting on possible violations of US fishing regulations, completing net diagrams, and testing and recording product recovery rates.

The FFOP greatly expanded with the passage of the Magnuson Fisheries Conservation and Management Act⁴ of 1976 (the Magnuson Act). This act established U.S. jurisdiction over fishery resources out to 200 nautical miles from shore, the EEZ⁵, and established a program for their management. The management program specified three goals: 1) to stop the decline of abundance of overfished stocks to assure development of new U.S. fisheries, 2) to protect Pacific halibut resources and rebuild this stock and 3) to permit (through the Secretary of Commerce) foreign fishing vessels and set catch limitations for each nation. In order to ensure that these plans were implemented, the Act stipulated that foreign vessels must accept observers. The U.S. was dependent upon observers to assess impact of foreign fisheries upon stocks.

Foreign vessels had differing amounts of observer coverage throughout the years and coverage levels were based on fishing days. From 1977 to 1982, U.S. observers monitored 10 to 29 percent of active foreign fishing days. Coverage levels rose to just over 44 percent in 1983 and finally increased to 90 percent in 1984. This highest level of coverage was maintained through 1990.

Funding for the FFOP was obtained from two different sources. Foreign nations paid for expected observer costs in advance for each calendar quarter. These funds were deposited into the Foreign Fisheries Observer Fund⁶ and could only be used for costs directly related to placing observers on foreign vessels. When the monies from this advance billing system did not provide for sufficient observer coverage, a supplemental program allowed for foreign nations to pay for observer costs directly to observer contractors. Under the rules of the supplementary observer program, only companies certified by the NMFS could provide observers. Under both funding systems, observers were provided by contractors and were not hired as federal employees.

Under the FFOP, the roles of the Agency and the contractors (observer provider companies) were similar to those under the NPGOP, with several critical differences. First, the contractors were accountable to the NWAFC and the NWAFC was the client under this contract. This direct contractual relationship between the NWAFC and the contractor ensured an arms-length relationship from industry, a high level of integrity, and that the government's data needs were met. Additionally, the federal contracting process ensured that a statement of work existed between the NWAFC and the contractors and that each party's responsibilities were clear and documented. Finally, the contracting process allowed for a competitive bid process on an annual or biannual basis, rather than for day-to-day competition. These contractual aspects of the FFOP served to protect the observers, ensure enough income for the contractors and provide the government with appropriate oversight.

Another goal of the Magnuson Act was to Americanize fisheries. As foreign fishing diminished, so did the biological data which FFOP observers collected. In order to replace these data, and to gauge the amount of

⁴ This Act was renamed the Magnuson-Stevens Fishery Conservation and Management Act when amended in 1996 by Public Law 94-265.

⁵ This was formerly termed the "Fisheries Conservation Zone" and was changed to the EEZ by Presidential Proclamation in 1983.

⁶ This fund was created by a 1980 amendment to the Magnuson Act.

cooperation domestic fishermen would show toward observers, a voluntary, pilot, domestic observer program began in September of 1987.

Observers for the voluntary domestic observer program were hired based on foreign fishery experience and the data collected were similar to that in the FFOP, with some additional data requests. Observers recorded: (1) total catch information for each haul/set (including independent catch estimation), (2) retained catch weight, (3) an increased amount of information on gear type and performance, and (4) factory production information.

A further development in the domestic observer program occurred in 1988 when the Marine Mammal Protection Act (MMPA) was amended to require vessels that have frequent interactions with marine mammals (Category I fisheries) to carry observers for 20 to 35 percent of their fishing days. The trawl fisheries in the BSAI and GOA were classified as such fisheries. In August 1989, the AFSC began placing observers aboard these vessels using MMPA funds.

In November 1989, the North Pacific Fishery Management Council (NPFMC or Council) passed Amendments 13 and 18 to the Fishery Management Plans (FMPs) for the Bering Sea/Aleutian Islands (BSAI) and Gulf of Alaska (GOA), respectively. Within these amendments, the *Domestic* Groundfish Observer Program was called for and coverage levels were set.

In January 1990, the mandatory NPGOP⁷ was established. At the time, the NMFS lacked authority to collect user fees. The domestic NPGOP therefore could not be funded in a manner similar to the FFOP, nor could the federal contracting process be used to obtain observers. To temporarily solve these problems, the Council created a third-party, pay-as-you-go system under which the fishing industry paid private observer provider companies for observer services. This Program is still in existence today.

From the Program's onset, the Council began planning for an improved fee-based system to fund the NPGOP. Under this system, NMFS would contract directly for observer services. This would eliminate the contractual agreement between private observer provider companies and the fishing industry, a relationship with the potential for a conflict of interest problem. A direct contractual relationship between NMFS and observer provider companies would also allow NMFS to more easily place observers where they were deemed necessary, providing more flexible observer coverage levels. Finally, a fee-based system could address cost inequities created by the pay-as-you-go system. In 1990, the Magnuson Act was amended to allow the Council to develop the North Pacific Conservation Research Plan (Research Plan) and collect fees to fund the program.⁸

In 1994, final action was taken to implement the North Pacific Fisheries Research Plan (Research Plan, Department of Commerce 1994). The pay-as-you-go system was to continue through December 1995 and the fee-based Program was to begin on January 1, 1996. Fees were collected in 1995 so that funds were available for NMFS to initiate contracts with observer provider companies under the Department of Commerce competitive bid contracting process, regulated under the Federal Acquisition Regulations.

⁷ The Program was also referred to as the "Domestic Groundfish Observer Program" through the early 1990's.

⁸ The Magnuson Act was again amended in 1992 to allow for a fee "not to exceed" two percent of the value of fish and crab harvested under NPFMC jurisdiction. This was an increase from the one percent allowed for in the 1990 amendment.

Throughout 1995, members of the fishing industry expressed growing concerns with the design and implementation of the Research Plan. The fundamental issues were cost-related, including: (1) cost equity issues, (2) the ability of NMFS to require appropriate observer coverage levels for special management programs (e.g., Community Development Quotas) while operating within the fee structure provided in the Magnuson Act, and (3) potential reductions in observer coverage due to observer cost increases. Because fees were based on the value of landed catch rather than on an observer-day, cost distribution resulted in increased observer costs for some industry sectors, and generally reduced costs for catcher vessels and small processors. Some fishery participants asserted that this distribution encumbered them with an inequitably high share of the cost of the program.

These concerns proved insurmountable and in December 1995, the Council repealed the Research Plan and extended the third-party, pay-as-you-go program as the Interim Groundfish Observer Program. As a result, the Council began considering a Joint Partnership Agreement (JPA). Under this program, a “primary contractor” would collect all industry payments for observer coverage. The government would have a joint partnership agreement with this primary contractor. Industry members would contact and pay the primary contractor directly for observer services. The primary contractor would then contract with observer provider companies for the actual provision of observer services. While the JPA eliminated the potential for a conflict of interest, it did not resolve the cost and coverage concerns identified as problematic under the Research Plan. In 1997, the potential primary contractor (Pacific States Marine Fisheries Commission) withdrew from the JPA after determining that their exposure to potential lawsuits would be too high. With this, the Council abandoned the JPA approach and called on NMFS to develop a fee-based program that could be implemented under Magnuson-Stevens Fishery Conservation and Management Act (MSA) authority. The Interim Program was further extended through December 31, 2000.

Yet another attempt to restructure the NPGOP began in 2000 in response to an independent review of the NPGOP by Marine Resources Assessment Group (MRAG), Americas, Inc. One recommendation made by MRAG, Americas, Inc. was that NMFS develop a contract between the Agency and the observer provider companies. NMFS attempted to approach this in a stepwise fashion, with a pilot contract with companies providing observers to the American Fisheries Act (AFA) catcher / processor and mothership fleet.

Under this arrangement, vessels in this fleet would be required to obtain observer coverage from observer companies that had a contract with NMFS. In an attempt to avoid the problems associated with cost issues, this contract was envisioned to be a “no-cost” arrangement between the government and the observer provider. Payment for observer coverage would still be made directly to the observer company by the fishing company. The contract between NMFS and the observer company would stipulate performance standards which would need to be met in order for the company to retain its rights to provide observers to this fleet. The contractual relationship between NMFS and the observer provider company would give the Agency more control and make the government a client of the company.

There were problems with this plan which prevented its implementation. The contract between the government and the observer company could mean that observer wages would be regulated under the Service Contract Act, meaning higher wages for observers and higher costs to the industry. Additionally, other sectors of the fishing fleet expressed concerns about using the AFA fleet for the pilot. AFA vessels are considered desirable for observer provider companies and observers alike, with their high coverage levels and regulated observer sampling stations. Concern arose among other fleet members that this “no-cost” model may not work for them, because they were a less desirable component of the fleet. Finally, the higher wages and larger vessels could draw experienced observers away from the rest of the fleet, leaving new observers

to cover smaller vessels which are often more difficult to sample aboard. In late 2001, it was decided that NMFS staff time would be better spent on regulatory changes to improve the existing NPGOP, and the “no-cost” pilot was abandoned. On December 6, 2002, the Interim Program was again extended through December 31, 2007.

In 2003, the current model used by the NPGOP to provide observers to the fishing industry looks much as it did when it was developed. This model is frequently referred to as the service delivery model (SDM). While the SDM has stayed virtually static, the fishery, the demands on the Program, and the uses of observer data have greatly changed. Fishery management policies have increasingly moved toward rationalizing groundfish fisheries to improve efficiency and utilization of the resource. A specific definition of “rationalization” has not yet been adopted by the Council. However, the term is generally used to refer to management measures taken to improve the economic efficiency of a fishery. These measures include those taken to balance capital investment, address specific economic, social, or conservation concerns, or prevent competition between fishery participants.⁹

With an increase in management measures to rationalize fisheries, the Program has experienced an increased demand for accurate, vessel specific, inseason catch data. The NPGOP was not originally designed for this purpose. Therefore, some observer coverage requirements and data collection procedures may not suit this need. For example, species composition sampling protocols were designed to reflect catch rates over time. However, under some management regimes, they are used on a haul-by-haul basis. When estimating catch of rare, but important, species, these haul specific estimates vary widely from known catch.¹⁰ These catch rates stabilize with time, but management regimes may require management action based on an individual haul.

1.2 Observer Program Mission and Goal

The NPGOP’s mission is to “provide the highest quality data to promote stewardship of North Pacific living marine resources for the benefit of the nation.” The goal of the Program is to “provide information essential for the management of sustainable fisheries, associated protected resources, and marine habitat in the North Pacific.”

⁹ Definition adopted from the Gulf of Alaska Rationalization. Proposed Amendment to the Fishery Management Plan for the Groundfish of the Gulf of Alaska. Scoping Guide to the Gulf of Alaska Rationalization Supplemental Environmental Impact Statement. NMFS Alaska Regional Staff. July 19, 2002.

¹⁰ Sarah Gaichas. Unpublished work from evaluation of basket sampling aboard a factory bottom trawler (F/T American No. 1) in association with Groundfish Forum, and analysis of observer data from three longline vessels testing seabird deterrents in summer 1999 as part of a Washington Sea Grant project.

1.3 Program Objectives

The OPO has a suite of objectives to meet its mission and goal. The Program provides observers with a detailed sampling manual each year which includes a list of priorities for observers.¹¹ The data observers collect directly relate to the following Program objectives.

Objective 1: Provide accurate and precise catch, bycatch, and biological information for conservation and management of groundfish resources and the protection of marine mammals, seabirds, and other protected species.

To meet this objective, an observer's first priority aboard a vessel is to collect biological data on marine mammals and endangered seabirds and to notify NMFS as soon as possible of these catches. The incidental catch of these species is a rare event, so most of an observer's time is spent on their next two priorities: the collection and transmittal of fishing effort information and species composition data.

Catch and species composition data are used extensively for establishing and monitoring quotas during the inseason management of the fishery. Observers aboard most catcher-processors are able to collect these data and transmit them to the NPGOP's Seattle office on a daily basis using NMFS-supplied custom software and the vessel's communication system. These data are then available to vessel owners and operators through a password-protected website. This immediate feedback allows the industry to view the same data that is used to manage their fishery and make their own inseason operational adjustments.

Observers assigned to processing plants collect information on each delivery, such as area fished, round weight delivered, and fishing start date. Plant observers spend most of their time during the pollock fisheries assisting vessel observers with a census of prohibited species delivered.

Additional biological data such as age structures, sex-length frequencies, Pacific halibut injury or viability assessment, and information on recovered tagged fish and crab are collected by observers. These data are primarily used only after the fishery is closed for stock assessment analyses. However, some industry members use data such as the sex ratio collected to determine their progress in roe fisheries.

Objective 2: Provide information to monitor and promote compliance with National Oceanic and Atmospheric Administration (NOAA) regulations and other applicable programs.

The observers in the NPGOP have both science and compliance responsibilities. While the Program strives to ensure that observers are not portrayed as "fish cops," both the Agency and observers recognize that compliance infractions can impact an observer's sampling and data collection, thus jeopardizing data quality. Observers document fishing regulation infractions while at sea and work with OPO and NMFS Alaska Enforcement Division (AED) personnel when necessary. Observers are instructed to inform vessel personnel when they witness a possible violation, giving the crew the opportunity to correct the problem.

¹¹ For details on each data type, and how it is collected, please refer to "The North Pacific Groundfish Observer Manual, 2003." It is available from the OPO at the AFSC or online at <http://www.afsc.noaa.gov/refm/observers/Document.htm>

Observers also document incidences of marine pollution and possible safety hazards. This information is reported either inseason or at the end of the observer's deployment, depending on severity. These data are then available to the United States Coast Guard.

Objective 3: Foster and maintain effective communications.

NPGOP observers have more contact with members of the fishing industry than any NMFS employee. They rely on the support and cooperation of the crew in order to keep them safe at sea and accomplish their sampling tasks. The OPO trains observers in effective communication and conflict resolution skills. An effective observer can not only resolve conflicts that may arise, but communicate how vital their data are to the continued longevity of the resource. The OPO tries to ensure that the data observers collect aboard vessels and processing plants are available to the public while still protecting the fishing industry's right to privacy.

1.4 Policy Alternatives and Rationale

Four policy alternatives are under consideration by the Council. Each policy alternative contains a range of management measures that illustrate how the framework could be implemented, called "bookends." These bookends provide a level of detail that allows analysis and provides contrasting policies. They also provide a means to commit the Council action in implementing an alternative, while allowing the Council, under the MSA, the flexibility to adaptively manage the fishery through FMP amendments.

Alternative 1 – Continue Management Under Existing (Updated) Policy: Under this alternative, the Council would continue to manage the groundfish fisheries based upon the present conservative and risk-adverse policy. This policy assumes that fishing does result in some adverse impacts to the environment and that, as these impacts become known, mitigation measures will be developed and appropriate FMP amendments will be implemented. The approach would be to continue with a plan to restructure the SDM for the provision of observer services to address issues with data quality and disproportionate cost issues.

Alternative 2 – Less Precautionary Management Policy: A less precautionary management policy (e.g.: more aggressive harvest policy) would be implemented based upon the concept that the present policy is overly conservative and that higher harvests could be taken without threat of overfishing the target groundfish stocks. This policy assumes that fishing at the recommended levels would have no adverse impact on the environment, except in specific cases that are generally known. Observers would be deployed in some fisheries, but mandatory coverage could be eliminated in open access fisheries. If deemed necessary, observers could be deployed at current levels under the current SDM.

Alternative 3 – More Precautionary Management Policy: This policy would seek to accelerate the existing precautionary management measures through community or rights-based management, ecosystem-based management principles and, where appropriate and practicable, increase habitat protection and impose additional bycatch constraints. Under this approach, additional conservation management measures would be taken as necessary to respond to social, economic, or conservation needs. Additional measures would be taken if scientific evidence indicated that the fishery was negatively impacting the "environment," not just a population of a given species. The main elements of this FMP would include: modifying observer coverage based on data or compliance needs; reevaluating coverage requirements to incorporate flexibility, random placement of observers or variable coverage rates depending on data needs; and changing the funding source to address cost inequity and potential conflict of interest concerns. This FMP would also include

improvements to observer sampling stations on vessels and at processing facilities and finer scale identification and recording of non-target species. Finally, this FMP would call for the development of uncertainty estimates for observer catch data.

Alternative 4 – Highly Precautionary Management Policy: This policy would require that the user of the resource demonstrate that the intended use would not have a detrimental effect on the environment before significant fishing could be allowed. The policy, as illustrated by its FMP framework, would be to impose very restrictive conservation and management measures that would only be modified or relaxed when additional, reliable, scientific information became available. It would involve a strict interpretation of the precautionary principle. Management discussions would involve and be responsive to the public, but decreased emphasis would be placed on industry and community concerns, and more emphasis would be placed on ecosystem concerns and principles. The overall premise is that fishing does produce adverse impacts on the environment, but due to a lack of information and uncertainty, we know little about these impacts. With regards to the NPGOP, this alternative would increase both observer coverage levels and hauls sampled on those vessels participating in the groundfish fisheries. The funding mechanism for the Program would change to one with greater distance between the observer provider and the fishing industry. The Agency would work to expand uncertainty estimates to all possible stocks.

2.0 Alternative 1: Continue Under Current Risk Averse Management Policy

This alternative would maintain current measures of observer coverage and data collection protocols. Although this alternative may be referred to as the “status quo,” it should again be noted that the NPGOP currently in existence is meant to be an interim Program. Although the SDM of the NPGOP looks much as it did when it was developed in 1990, virtually all other aspects of the fishery, and aspects of the Program, have changed. Recognizing this, staff from the OPO, the Alaska Regional Office, the NPFMC and its associated Observer Advisory Committee (OAC) have been working on improving the existing Program.

In October 2002, staff from NMFS and the Council met to discuss a variety of ideas for restructuring the NPGOP. NMFS and Council staff agreed that the restructuring should be limited in scope in order to be sufficiently funded and to be as non-disruptive to observer provider companies and the fishing industry as possible. The following problem statement was drafted by the OAC in January 2003.

“The North Pacific Groundfish Observer Program is widely recognized as a successful and essential program for management of the North Pacific groundfish fisheries. However, the NPGOP faces a number of longstanding problems that result primarily from its current structure. The existing program design is driven by coverage levels based on vessel size that, for the most part, have been established in regulation since 1990. The quality and utility of observer data suffer because coverage levels and deployment patterns cannot be effectively tailored to respond to current and future management needs and circumstances of individual fisheries. In addition, the existing program does not allow fishery managers to control when and where observers are deployed. This results in potential sources of bias that could jeopardize the statistical reliability of catch and bycatch data. The current program is also one in which many smaller vessels face observer costs that are disproportionately high relative to their gross earnings. Furthermore, the complicated and rigid coverage rules have lead to observer availability and coverage compliance problems. The current funding mechanism and program structure do not provide the flexibility to solve

many of these problems, nor do they allow the program to effectively respond to evolving and dynamic fisheries management objectives.”

The OAC recommended that the Council and NMFS proceed with an analysis to consider restructuring the NPGOP to address these issues. The analysis would propose changing the current SDM to one in which NMFS has a contract with observer provider companies and costs are covered by a combination of Federal funding and industry-paid fees. The OAC also recommended that the scope of this redesign be focused on vessels and processors in the GOA, with an option to extend the redesign to vessels operating in the BSAI which currently require less than 100 percent observer coverage. It is expected that this work will continue under this alternative.

Service Delivery Model

The current SDM is often referred to as a third-party, pay-as-you-go system. In 1998, the AFSC initiated a comprehensive review of the NPGOP, including the SDM. The review was done by an independent consulting firm, MRAG Americas.¹² The review began in August 1999 and the final report was issued in May 2000. The MRAG review highlighted problems with the SDMs organizational structure, coverage levels, cost distribution, and observer support system. In 2000, the OPO in Seattle conducted an internal management control review as part of a National management control review on observer programs. Similar problems with the NPGOP’s SDM were discussed in both reports.¹³

The third-party pay-as-you-go SDM is designed such that industry members pay private observer companies directly for observer services. This direct financial relationship between the observer’s employer and industry creates, at a minimum, the appearance of a conflict of interest. The OPO has no documented cases of an observer being asked by their company to alter data to benefit a business partner. Nevertheless, this possibility exists and OPO staff have seen less egregious cases where the company’s need to provide the service to their customer outweighs the government’s need for quality data. These examples include behavior such as deploying an observer with no sampling gear, no personal gear, or while the observer was ill and unable to sample.

The NPGOP currently operates with five permitted observer companies. These companies compete for industry clients. This competition may also put observers under unnecessary pressure which can be detrimental to data quality and the observer’s work environment. For example, observers have reported not being allowed to board vessels because they had completed an affidavit against the vessel. In this circumstance, the observer company may choose to deploy another observer rather than lose a client. A diligent observer could lose work if the observer company does not have another vessel on which to deploy him or her.

Funding Mechanisms

The vast majority of funds supporting the NPGOP come from the fishing industry. It is estimated that their costs associated with obtaining observer coverage is approximately \$12 million. These funds are paid directly

¹² Marine Resources Assessment Group Americas Inc. is affiliated with Marine Resources Assessment Group Ltd.

¹³ Both the Marine Resources Assessment Group report and the management control review report are available from the North Pacific Groundfish Observer Program Office at the Alaska Fisheries Science Center.

to private observer provider companies to cover the costs of observer recruitment, travel, insurance, company overhead, and employee salaries and benefits. The Agency further contributes approximately \$3 million. These Agency funds cover the costs associated with the operation of the Program. These services include observer certification training and briefing, observer field support, observer debriefing, and management of observer data.

Observer Coverage Levels

The NMFS Regional Administrator can alter observer coverage levels at any time to improve accuracy, reliability, and availability of observer data if there has been a change in the bycatch composition of a specific component of the fleet or if additional observer coverage is needed to meet specific fishery management objectives. In the past, the Agency has only pursued a change to observer coverage requirements through a change to the Code of Federal Regulations and with the approval of the Council. This process can be lengthy, but allows the public to comment on the proposed change.

The Groundfish FMPs for the BSAI and GOA set observer coverage levels for different sectors of the fishery. Although observer coverage requirements are dependent upon vessel or processor type, target fishery, gear type and time of year, they are set at one of four levels: 200 percent coverage (with two observers aboard the vessel simultaneously), 100 percent coverage, 30 percent coverage, or no coverage. All coverage levels are based on days fished in a calendar quarter. Exact regulatory language dictating observer coverage levels can be found in the Title 50 of Code of Federal Regulations §679.50 Subpart E – Groundfish Observer Program.¹⁴

Processing Plants

Processing plants include both shoreside and stationary floating processors. These facilities receive potentially sorted groundfish deliveries from catcher vessels using all types of gear. Observer coverage levels for processing plants are determined by the amount of groundfish processed each calendar month.

Processing plants processing 1,000 metric tons (mt) or more of groundfish in a calendar month are required to have an observer present each day it receives or processes groundfish during that month. Plants processing between 500 mt to 1,000 mt of groundfish are required to have observer coverage for 30 percent of the days it receives or processes groundfish during the month. Plants which process less than 500 mt of groundfish in a month are not required to obtain observer coverage. In 2002, there were 4196 observer-days spent at 20 individual processing plants.

In early 2003, coverage requirements for plants receiving pollock or Pacific cod were changed to reduce coverage during months when a directed fishery for these species closes. During these months, plants receiving less than 250 mt of groundfish per week may reduce their coverage to 30 percent of the days in which fish is received or processed. If the 250 mt limit is exceeded during a week, the plant must return to normal coverage requirements until all fish are processed. The plant can then return to the reduced coverage for the remainder of the month.

¹⁴ The coverage level descriptions in this paper are given as generalities only. Special coverage requirements exist for many directed fisheries.

Mothership Vessels

A “mothership” vessel is a processing vessel which routinely receives unsorted catch from other vessels by way of a codend transfer. Motherships which process 1,000 mt or more of groundfish in a calendar month are required to have an observer aboard each day it receives or processes groundfish during that month. Motherships which process between 500 mt and 1,000 mt of groundfish in a month must carry an observer at least 30 percent of the days it receives or processes groundfish during that month. Motherships processing less than 500 mt of groundfish in a month are not required to carry an observer.¹⁵

In 2002, all observed motherships were participating in the pollock fishery regulated under the AFA and therefore carried additional observer coverage to meet AFA requirements. On these vessels, the lead observer aboard must have an additional certification specific to AFA and Community Development Quota (CDQ) fisheries. This specialized training, called level 2 certification, is discussed in detail in the CDQ section that follows.

Observers aboard motherships treat the codends received as if they were caught by the mothership. Their data collection duties are the same as for any trawl catcher / processor in the fishery in which the vessel is participating. Because the observers aboard the mothership collect all necessary data, most vessels delivering unsorted codends to motherships do not carry observers.

Trawl and Longline Vessels

In open access and Individual Fishing Quota (IFQ) groundfish fisheries, observer coverage requirements for trawl and longline vessels are determined by vessel length. Vessels greater or equal to 125 feet (ft) in length overall (LOA) are required to carry an observer for all of its fishing days. Vessels greater or equal to 60 ft LOA but less than 125 ft LOA that participate in a directed fishery for more than three fishing days in a calendar quarter are required to carry an observer for at least 30 percent of its fishing days in that quarter. Additionally, at least one fishing trip in each calendar quarter for each fishery these vessels participate in must be covered. Vessels less than 60 ft LOA are not required to carry an observer.

Pot (Trap) Vessels

In early 2003, coverage requirements for vessels fishing with pot gear were changed to base their coverage needs on pot retrievals rather than vessel length. Starting with this regulatory change, pot vessels 60 ft or greater LOA that fish for more than three days in a calendar quarter must carry an observer for at least 30 percent of the total number of pot retrievals for that calendar quarter. Additionally, at least one fishing trip in each calendar quarter for each fishery these vessels participate in must be covered. Vessels less than 60 ft LOA are not required to carry an observer.

Previous pot vessel coverage regulations required pot vessels of any length to carry an observer for 30 percent of their fishing days. The change was a regulatory response to the problem of pot vessels picking up an observer in port, traveling just out of the harbor, and retrieving one pot in order to receive observer coverage for that day. The new requirements, based on pot lifts, were made to ensure that observer data was more representative of actual fishing effort.

¹⁵ There are additional observer coverage requirements for motherships fishing in the chum salmon savings area between September 1 and October 15.

Multi-Species Community Development Quota Fishery

The CDQ Program began in December of 1992 with the goal of promoting fisheries related economic development in western Alaska. The advent and expansion of this program has greatly affected the NPGOP and its priorities.

Unlike in open-access fisheries, at-sea observer data are used exclusively to manage groundfish and halibut CDQs aboard catcher-processor vessels. Therefore, these vessels are required to have every CDQ haul sampled by an observer.

Longline and pot catcher vessels harvesting CDQ deliver all catch, with the exception of prohibited species, to processing plants. At the plant, the catch is sorted and weighed. Since there are two locations for data collection, both at-sea observer data and delivery weights from the processing plant are used to manage the CDQ. Observer data are used to determine prohibited species catch (PSC) and delivery information is used to determine retained catch weights.

In order to meet the data needs required to manage CDQ, OPO staff worked with the Alaska Regional Office to develop CDQ-specific observer experience and training, vessel equipment, and observer coverage requirements.

While these requirements were originally developed for the CDQ fisheries, they are now also used to ensure quality data collection aboard vessels operating under the AFA. Since this change was made, much of the language regarding specialized “CDQ observers” has been changed to “level 2 observers” to reflect both fisheries.

Observer Experience and Training Requirements

Since 1998, NMFS has required that all observers deployed in CDQ fisheries have prior observing experience and each must complete a level 2 training course. The amount and type of experience each observer has determines whether the observer is qualified to serve as a lead level 2 observer. Lead observers serve as the primary point of contact for observer issues aboard the vessel for both crew and NMFS personnel. Lead observers are also responsible for returning the data to NMFS and carrying it through the debriefing and editing process.

To qualify as a level 2 observer, an observer must have at least 60 days of data collection for which they received an acceptable evaluation from staff at the OPO. They must also successfully complete the level 2 training class. A lead level 2 observer must have additionally completed two observer cruises and sampled a defined number of hauls aboard a particular vessel type.

Staff at the OPO and the North Pacific Observer Training Center have designed the level 2 training course to build upon an observer’s existing skills. Much of the training consists of ensuring observers know and understand the additional regulations in place to manage the CDQ and AFA fisheries.

Equipment and Operational Requirements

While the NPGOP made changes in training and certification requirements for CDQ observers, the fishing industry also responded to the need for increased data accuracy aboard these vessels. Catcher/processors and

motherships are required to provide additional equipment to assist observers in collecting data. These vessels must have a NMFS-certified observer sampling station with an electronic, motion-compensated platform (MCP) scale. Additionally, trawl and mothership vessels are required to have electronic, motion-compensated flow scales that are capable of weighing all landed catch. Both scales must be certified by NMFS.

OPO staff are responsible for the certification of sampling stations and the Alaska Region administers the scale certification program. Sampling stations and scales are inspected and certified annually prior to participating in a CDQ fishery. These stations must include the MCP scale, accessible sample collection points, adequate lighting, slip-resistant flooring, a table and hose. Additionally, the station must meet minimum space requirements.

Observer Coverage Requirements

The required amount of observer coverage aboard CDQ vessels is determined by the vessel type and the amount of work an observer can be expected to do. Regulations require that every CDQ haul be sampled aboard catcher / processor and mothership vessels. Longline and trawl catcher / processors and motherships generally operate 24 hours per day, making it impossible for a single observer to complete all sampling duties. These vessels are, therefore, required to carry two level 2 observers, one of whom must be lead qualified for that gear type. Catcher / processors using pot gear must carry one lead level 2 observer. Catcher vessels delivering unsorted catch to a processing plant are required to carry one level 2 observer. The processing plant receiving CDQ catch must also have a level 2 observer present.

American Fishery Act Fishery

The AFA fishery has specific catch monitoring needs that require equipment and observer coverage similar to the CDQ fisheries, especially in the offshore sector. The inshore fishery is relatively unchanged from the open access fisheries, for both catcher vessels and processing plants.

Catcher/processors and motherships regulated by the AFA are required to have motion-compensated flow scales and observer sampling stations. These vessels must carry at least two observers, one of which must qualify as a lead level 2 observer aboard this vessel type. Although a level 2 observer is not required at processing plants receiving AFA fishery deliveries, the plant is required to have an observer available for each consecutive 12 hour period in which the processor takes delivery of, or processes, BSAI pollock. Additionally, processors must designate a plant liaison who must be available whenever pollock is offloaded or processed to assist the plant and catcher vessel observers.

3.0 Alternative 2: Adopt a More Aggressive Management Policy

The FMP bookend 2.1 would eliminate observer coverage with the exception of those fisheries regulated under the AFA or CDQ. The FMP bookend 2.2 leaves the NPGOP identical to Alternative 1.

FMP 2.1 would essentially eliminate most of the NPGOP and its data collection activities. This FMP would reduce also CDQs to only pollock and crab species. This change would mean groundfish observer data would come only from vessels and processing facilities harvesting pollock. The Agency could expect to see a drastic reduction in inseason management data and stock assessment data collected by observers, such as age structures and stomach samples. Additionally, fishery scientists would lose a critical platform from which to complete special projects.

Observer data play a critical role in the management of the North Pacific groundfish fisheries. Observers provide accurate information on commercial fishing harvests that may not be otherwise captured by survey vessels or vessel logbook information. Of the nearly 35,000 observer-days spent at sea in 2002, less than 20 percent of these were spent on AFA pollock catcher / processor vessels. A reduction in observer data this severe would leave the Agency without substantial information to make inseason management decisions.

4.0 Alternative 3: Adopt a More Precautionary Management Policy

This alternative has two distinct FMP bookends, each which would make different changes to the NPGOP. FMP bookend 3.1 would modify observer coverage requirements based on data or compliance needs, address the conflict of interest potential under the current SDM, improve observer sampling stations, increase non-target species identification training for observers and develop uncertainty estimates for target species data. FMP bookend 3.2 is very similar to 3.1 with the exception of calling for and increase in observer coverage for vessels greater than or equal to 60 ft LOA and expanding uncertainty estimates to all possible stocks.

4.1 FMP Bookend 3.1

Observer Coverage Levels

Under this management policy, observer coverage could either stay the same as that in Alternative 1 or be modified depending upon compliance or science-based data needs. Implementation of this FMP bookend would allow for much more flexibility for the Agency to deploy observers where needs dictated coverage. This was a clear goal of the Research Plan as well, and in order to accomplish this task, the SDM would need to be changed. Under the current SDM, the Agency regulates each component of the fishery to carry observers. The Agency cannot, therefore, respond immediately to increase or decrease coverage to meet a data or compliance monitoring need. Additionally, there is no mechanism in place for the Agency to pay for observer coverage if additional coverage on a segment of the fleet was deemed necessary.

Funding Mechanisms

FMP bookend 3.1 changes the funding mechanism for the NPGOP in order to alleviate the direct business relationship between the observer provider companies and the fishing industry. This relationship has long been a concern because it could provide a means for a fishing operation to reward or penalize their observer provider company and thus influence the work performance of the observers and the quality of the data collected. This appearance of a conflict of interest could reduce the credibility of observer data. The bookend provides three examples of restructured funding mechanisms that would eliminate this problem: (1) full Federal funding, (2) industry fee-based funding, and (3) setting aside a portion of the Total Allowable Catch (TAC). Any of these three funding mechanisms would put the Agency more in control of the Program.

Federal Funding

The NPGOP is the most expensive observer program in the Nation, due in most part to its size. In addition, the Program is expected to be needed in perpetuity. These factors do not eliminate the possibility of obtaining full Federal funding, but do make it more difficult to obtain. The AFSC put forward a budget initiative to NMFS for full Federal funding for the NPGOP for the 2004 fiscal year, but the request was not forwarded past the NMFS Headquarters level.

Fee-based Funding

Industry fee-based funding is the mechanism that has been most explored in the North Pacific, because the Research Plan was to use this source. The issues that were problematic under the Research Plan (see page 4) all still exist today and will need to be adequately addressed before a fee-based plan will be successful. Additionally, the MSA may need to be amended again if the allowable 2 percent of ex-vessel value is inadequate to fund the Program.

In its July 2002 meeting, the OAC supported full Federal funding, but the Committee agreed that a Program design that included both Federal and fee-based funding should be developed for analysis. It may be this blended system that gets the most support. A single funding source may support basic observer coverage needs, but could be strained by the component of the fleet that needs additional coverage to support specialized management plans, such as AFA and CDQ. One source could provide for basic coverage needs, and another could be used to pay for additional coverage needs called for by specialized management plans. Regardless of which funding source is used to pay for which type of observer coverage, industry representatives on the OAC clearly expressed the need for the industry portion to be capped at a specific amount. This design would require NMFS to determine fishery specific coverage levels and to differentiate between “standard” and “specialized” management plans and their coverage needs.

Resource Funding

The TAC set aside system of funding has also been investigated by the Agency. Currently, only the Northeast’s sea scallop dredge observer program uses this type of funding.¹⁶ The OAC has discussed the feasibility of this funding source in the North Pacific and concluded that this model works best in single species fisheries which are closed primarily by reaching the TAC. This model would be difficult to implement in the multispecies fisheries in the North Pacific, which may be closed due to PSC. However, if multiple funding sources could be used under a plan similar to the Research Plan, this funding model may be useful for the crab and Pacific halibut fisheries, both of which were included in the Research Plan.

Data Collection Protocols

This FMP bookend calls for improving sampling stations, improving observer identification skills for non-target species, and the development of uncertainty estimates for target species data.

Sampling Stations

By far the largest improvement in sampling stations came with the multispecies CDQ observer regulations described earlier. However, the OPO has not relied solely on regulations to improve observer working conditions and has taken several steps to accomplish this task. NMFS issues basic sampling equipment to observers, but specialized gear such as flatbed scales, collapsible totes, and pulleys are also available. This additional gear allows observers to set-up effective sampling stations where space is constraining. On vessels with less than 100 percent observer coverage, the observer sampling station is usually temporary, and having portable gear allows the observer to create a sampling space when they board different vessels.

¹⁶ The scallop program is the only NMFS observer program that is resource funded. However, the Alaska Department of Fish and Game has a portion of their crab observer program funded by test-fishery cost recovery funds.

The OPO maintains a database of vessel surveys in which observers describe where and how they sampled, and suggestions for future observers. Additionally, the OPO has many vessel diagrams available for observers before they board vessels. Finally, the OPO has permanent and rotating staff in the field offices in Dutch Harbor and Kodiak. These staff are available for vessel visits and can often make suggestions to vessel crew and observers to design the best sampling station possible. Commercial fishing vessels are not designed for research, however, and often even the best station can be crowded and difficult to work in.

If an FMP similar to this bookend was adopted, the OPO would continue to work with the fishing industry to improve sampling conditions aboard vessels. The Program could also draft new regulations specifying sampling station design on certain vessel classes if it was deemed necessary. The Program would need the cooperation and agreement of the OAC and Council if this was to be done.

Identification of Non-target Species

Observers are currently required to identify, account for, and record everything that occurs in their sample. NMFS has observers record some organisms under generalized group accounting codes, such as “sculpin,” “eelout,” or “snailfish”. Many species may be included in these groups, and observers are not required to identify them all to the species level. The decision as to which species observers are required to identify is made by the OPO, in consultation with the Alaska Regional Office and NMFS stock assessment scientists. Historically, fish that are managed were identified to species, while non-target species were not. Non-target fish that were easily identified, such as shark species, have been identified for many years by observers. In the past few years, the OPO has received requests to have observers identify more non-target species, such as skates, sculpins, members of the Osmeridae family, and some coral species. Additionally, the OPO receives requests to identify some target species further than their management group, such as Northern and Southern rock sole, and light and dark dusky rockfish.

The OPO has to balance the additional time taken to teach non-target species identification and observer time in the field keying and recording these species with all the other tasks required of observers. The Program has to be especially careful not to sacrifice target species data for the collection of non-target information. In 2002, the OPO issued a special project for skate and sculpin identification and trained only experienced observers with these additional keys. Along with identifying and recording these species, the observers were asked to record how much time they spent on these tasks. This project is ongoing in 2003 and will help the Program understand the cost-benefit relationship of this additional task and set the priority on identification of these species. Under this alternative, similar work on expanding species identification would continue.

Uncertainty Estimates

Currently, observer catch and composition data are used as point estimates for fishery management purposes. There are no established confidence intervals associated with these numbers, and the mean of observer samples is used as equal to the mean of the overall population.

NMFS uses the observer estimates of total catch, the total weight of catch reported by industry and the difference between these two numbers in the “blend” system for estimating total weekly removals in the open-access fisheries. This current system of inseason management requires a fixed number from both observer and industry sources. The blend system is an algorithm for selecting either observer or industry data as the source for estimation of total groundfish catch. When both data are available, the blend selects one of them to include. When a vessel is unobserved, the catch estimates is based only on industry information. The

blend system is not applied to the CDQ fishery, so vessels in these fisheries must carry additional observers sufficient to sample every haul.

In 1997, NMFS contracted Versar, Inc. to do an analysis comparing several estimators of catch and catch composition. They developed two statistical estimators of fleetwide total catch using observer data from the 1994 BSAI pollock and yellowfin sole fisheries and compared these estimates to three other estimators representative of those currently used in these fisheries (industry supplied weekly production reports, observer data and the blend system). The Versar analysis showed that the use of statistical estimation for the management of these fisheries would have resulted in attainment of the TACs earlier than would have been case when using the blend system. Additionally, Versar's simulations showed that variability is high when either only a fraction of the vessels in the fleet are sampled or when the fraction of hauls sampled on a particular vessel is low. The current levels of observer coverage in these fisheries, and the amount of hauls sampled, provided for adequate statistical precision for the most abundant species in the catch.¹⁷ The statistical precision decreased for rarer species. Complete observer coverage of the CDQ fishery was supported by Versar's results.¹⁸

The Versar report concluded that statistical procedures could be used for catch estimation, instead of the blend system. However, they also recommended that fishery managers evaluate whether observer coverage was sufficiently high to yield levels that satisfy management objectives. It would be appropriate to review the use of statistical estimators in tandem with setting new observer coverage levels, to ensure that the number of measurements made will result in the desired confidence interval.

The Versar report looked only at two large fisheries, both of which had high observer coverage rates because of the size of the vessels involved in the fisheries. The NPGOP and the Alaska Regional Office will need more data on the impact of statistical estimators on fishery management of smaller fisheries, ones with less observer coverage, and fisheries in which rarer species may be a limiting factor. A change in funding and the SDM may allow more vessels and more hauls to be sampled in these fisheries, giving the Agency some of the data required.

4.2 FMP Bookend 3.2

Observer Coverage Levels

Under this management policy, observer coverage would continue to be fixed in regulation and based on vessel length. The only change from Alternative 1 would be that all vessels greater than or equal to 60 ft LOA would be required to carry an observer each day that they participate in an open-access groundfish fishery (100 percent coverage). This coverage requirement would provide increased data in fisheries prosecuted by smaller vessels, but would still leave a component of the fleet entirely uncovered and would not allow for any flexibility for the Agency to change coverage levels in response to data needs.

¹⁷ The Versar report was written prior to the enactment of the AFA and observer coverage requirements for the open-access pollock fishery was based only on vessel length.

¹⁸ At the time of the Versar report, the only observed groundfish CDQ fishery was for walleye pollock.

Funding Mechanisms

The change in coverage levels under this FMP bookend would almost assuredly require a change to the NPGOPs funding mechanism as well. The options and discussions for the different funding mechanisms under bookend 3.2 are the same as those discussed under bookend 3.1.

Data Collection Protocols

This bookend also calls for the improvements in observer sampling stations and improved species identification for non-target species that are discussed under FMP bookend 3.1. Bookend 3.2 would require the Agency to expand uncertainty estimates to all possible stocks, rather than for just target species as in 3.1.

5.0 Alternative 4: Adopt a Highly Precautionary Management Policy

There are no differences between the FMP bookends 4.1 and 4.2 in regards to the NPGOP, so the alternative will be discussed as one FMP.

Observer Coverage Levels

Under this management policy, observer coverage would be increased as would the actual percent of hauls sampled. Observer coverage levels would be set by vessel size, with vessels greater than 60 ft LOA requiring 100 percent coverage with all hauls sampled for species composition. Vessels less than 60 ft LOA would be required to carry an observer for 30 percent of their fishing days and all hauls retrieved while the observer was aboard would be sampled for species composition. Vessel size greatly impacts an observer's ability to complete sampling tasks. The requirement for all hauls to be sampled may require a change in the fisher's harvest strategy or a vessel to carry more than one observer.

Funding Mechanisms

Funding mechanisms for the NPGOP would also change under this management alternative and would be the same options as those presented in Alternative 3. Funding would be either through Federal annual appropriations, industry funded through a fee, or resource funded through a TAC set aside program. As described in Alternative 3, the Program's SDM would also change to reflect the funding source.

Data Collection Protocols

Although the percentage of observer coverage across the fleet would increase, the amount of observer data may decrease due to other changes in the fishery. With the change in emphasis from industry and community concerns toward ecosystem-oriented management, observer data collection protocols and emphasis may also change. For example, new PSC limits for salmon, crab, and herring in the GOA may shift sampling emphasis toward more accurate accounting of these species and away from other duties. The emphasis on ecological relationships among species may increase the need for trophic interaction data, such as stomach collections. These shifts in data collection priorities could cause a reduction in other critical observer data, such as otolith collections, bycatch accounting or total catch estimates. The OPO will need to continue to work closely with inseason managers and stock assessment scientists to respond to the changing data needs required for implementing this management alternative.

If all fisheries are shown to have some detrimental effect on the environment, there would be no fisheries and consequently, no observer coverage. Although the current emphasis of observer data collection is for inseason management purposes, other data are collected. Observers contribute to the knowledge of the species and the environment off the North Pacific. Among other tasks, observers contribute data on new species, report on geographic or depth range extensions of species, collect data on marine mammal and endangered seabird species sightings and record information and collect samples from tagged organisms. With the closure of the fisheries, the observer's unique opportunity for collecting information also ends.

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